

**Application No.: 10/597,295**  
**Filing Date: July 19, 2006**

## **REMARKS**

This paper is in response to the Office Action dated April 8, 2009. Applicants have amended the application as set forth above. No new matter is added by the amendments as discussed below. Applicants respectfully request the entry of the amendments and reconsideration of the application in view of the above amendments and the following remarks.

### **Discussion of Amendments to Specification**

The Abstract has been amended to include a single paragraph of 150 word or less to be in compliance with 37 CFR 1.72(b) and MPEP § 608.01(b).

Paragraph 0009 has been amended to correct a typographical error.

As such, the amendments are fully supported by the application as originally filed and do not constitute the addition of new matter. Applicants respectfully request the entry of the amendments.

### **Discussion of Amendments to Claims**

The amendments to Claim 1 are made to recite the limitations of Claim 2. Support for the amendments to Claim 1 can be found in, for example, the original Claim 2; and Figures 3 and 6 and their attendant description in the specification.

The amendments to Claim 5 are made to recite the limitations of Claim 6. Further, Claim 5 has been amended to avoid invoking of 35 U.S.C. §112, ¶ 6. Support for the amendments to Claim 5 can be found in, for example, the original Claim 6; and Figures 3 and 6 and their attendant description in the specification.

Claim 7 has been amended to avoid invoking of 35 U.S.C. §112, ¶ 6. Support for the amendments to Claim 7 can be found in, for example, the original Claim 7; and Figures 3-6 and their attendant description in the specification.

Claim 8 has been amended to change “The method” to “The apparatus” in line 1.

Claim 11 has been amended to correct a typographical error.

As such, the foregoing amendments are fully supported by the application as originally filed and do not constitute the addition of new matter. Applicants respectfully request the entry of the amendments.

### **Discussion of Objection to the Abstract**

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The Abstract has been amended as set forth above in compliance with 37 CFR 1.72(b) and MPEP § 608.01(b). Applicants respectfully request the withdrawal of the objection.

**Discussion of Objection to the Specification**

Paragraph 0009 has been amended to correct the misspelled word “outputed.” Applicants respectfully request the withdrawal of the objection to the specification.

**Discussion of Objection to Claims 2 and 11**

Claims 2 and 11 were objected to as including informalities. Claim 2 has been cancelled, rendering the objection to the claim moot. In reply to the objection, Claim 11 has been amended to delete “of.” Applicants respectfully request the withdrawal of the objections.

**Discussion of Rejection Under 35 U.S.C. § 112, ¶ 2**

Claim 8 was rejected under 35 U.S.C. § 112, ¶ 2, as lacking antecedent basis for the limitation “The method” in line 1. In reply, Claim 8 has been amended to change “The method” to “The apparatus.” Applicants respectfully request the withdrawal of the rejection.

**Discussion of Rejection Under 35 U.S.C. § 112, ¶ 6**

With respect to Claims 5 and 7, the Office Action indicated at pages 1 and 2 that limitations in the claims invoke 35 U.S.C. § 112, ¶ 6, and the elements recited therein do not appear to be defined in the claims or the specification by sufficient structure, and thus are considered indefinite.

Applicants disagree with the Office Action and submit that the application discloses structures corresponding to the limitations invoking 35 U.S.C. § 112, ¶ 6. Nonetheless, in order to avoid claim construction under 35 U.S.C. § 112, ¶ 6, Applicants have amended Claims 5 and 7 to delete the term “means for.” As such, Claims 5 and 7 should not invoke 35 U.S.C. § 112, ¶ 6, rendering the rejection of the claims moot.

**Discussion of Rejection Under 35 U.S.C. § 101**

The Office Action rejected Claims 1-3 and 8-12 under 35 U.S.C. § 101, indicating that the claimed invention is directed to non-statutory subject matter.

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Applicants note that the Federal Circuit in *In re Bilski*, 545 F.3d 943, 961 (Fed. Cir. 2008) stated that the machine-or-transformation test is proper test to apply to determine patent-eligibility of process claims. The Federal Circuit in *In re Bilski* also stated that “an applicant may show that a process claim satisfies § 101 by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article. *Id.*”

Claim 1 recites “receiving ***through an ultrasonic sensor*** a signal from an ultrasonic transmitter.” Claim 11 also recites “receiving a signal ***through an ultrasonic sensor***.”

The term “ultrasonic sensor” refers to a machine that receives an ultrasonic signal. Therefore, the claims are at least “tied to a machine.” As such, the claimed invention is directed to statutory subject matter under § 101 in view of *Bilski*. Applicants respectfully request the withdrawal of the rejection of the claims.

### **Discussion of Rejection Under 35 U.S.C. § 102**

The Office Action rejected Claims 1 and 5 under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 4,644,513 to Czajkowski, hereinafter “Czajkowski.” Applicants respectfully disagree with the Office Action. However, solely to advance the prosecution of this application, Applicants have amended Claims 1 and 5 to recite limitations of Claims 2 and 6, respectively, which have not been rejected under 35 U.S.C. § 102.

Particularly, Claim 1 as amended now recites, among other features, that “generating the output signal comprises: comparing the filtered signal against an upper threshold and a lower threshold so as to provide the output signal, wherein the output signal has a lower level and an upper level; wherein the output signal transitions from the lower level to the upper level when the filtered signal changes from below the upper threshold to above the upper threshold, and the output signal stays at the upper level when the filtered signal maintains above the lower threshold, and wherein the output signal transitions from the upper level to the lower level when the filtered signal changes from above the lower threshold to below the lower threshold, and the output signal stays at the lower level when the filtered signal maintains below the upper threshold.” Claim 5 as amended now recites, among other features, “the comparator compares the filtered signal against an upper threshold and a lower threshold so as to provide the output signal, wherein the output signal has a lower level and an upper level, wherein the output signal transitions from the lower

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level to the upper level when the filtered signal changes from below the upper threshold to above the upper threshold, and the output signal stays at the upper level while the filtered signal maintains above the lower threshold; and wherein the output signal transitions from the upper level to the lower level when the filtered signal changes from above the lower threshold to below the lower threshold, and the output signal stays at the lower level while the filtered signal maintains below the upper threshold.”

Czajkowski does not teach the foregoing features of Claims 1 and 5. Therefore, Czajkowski does not anticipate Claims 1 and 5. Applicants respectfully request the withdrawal of the rejection of Claims 1 and 5.

**Further Discussion of Patentability of Dependent Claims**

Applicants respectfully submit that pursuant to 35 U.S.C. § 112, ¶4, the dependent claims incorporate by reference all the limitations of the claim to which they refer and include their own patentable features, and are therefore in condition for allowance. Therefore, Applicants respectfully request the withdrawal of all claim rejections and prompts allowance of the claims.

**No Disclaimers or Disavowals**

Although the present communication includes alterations to the application or claims, or characterizations of claim scope or referenced art, Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

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## **CONCLUSION**

In view of the foregoing remarks, Applicants respectfully submit that the present application is in condition for allowance. Should the Examiner have any remaining concerns, which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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